

ALEKSANDROVSKIY, B.P.; VOLODINA, N.G.; YEMCHENKO, A.A.; IZABOLINSKAYA,  
R.M.; KOGOSOVA, L.S.; LOSEV, V.A.; MATYULINA, S.P.; NIKOLAYETS,  
V.P.; OMEL'YANENKO, N.N.; RICHENKO, S.G.; CHERKASSKIY, L.P.;  
YUSHKEVICH, M.S.; YASHCHENKO, T.T.

Basic pathophysiological peculiarity of the vital activity of  
person with one lung and the functional disorders attendant on  
it. Pat., klin. i terap. tub. no. 8:4-11 '58. (MIRA 13:7)

1. Iz Ukrainського nauchno-issledovatel'skogo instituta tuberku-  
leza im. akad. F.G. Yanovskogo.  
(LUNGS--SURGERY) (METABOLISM)

CHERKASSKIY, L.P., kand.med.nauk; LOSEV, V.A., kand.med.nauk; SVIRYAKIN, V.T.

Experimental data on changes in the blood circulatory system,  
respiration and blood following resection of the lung. Probi.  
tub. 37 no.4:88-96 '59. (MIRA 12:10)

1. Iz patofiziologicheskoy (rukovoditel' - deystvitel'nyy chlen  
AMN SSSR prof.N.N.Gorev) i patologoanatomicheskoy (rukovoditel' -  
dotsent V.F.Yur'yeva) laboratoriy Ukrainского nauchno-issledovatel'-  
skogo instituta tuberkuleza (dir. - dotsent A.S.Mamolat).

(LUNGS, surg.

exper. resection, eff. on blood, blood circ. &  
resp. in rabbits (Rus))

(BLOOD

eff. of exper. lung resection in rabbits (Rus))

(BLOOD CIRCULATION

same)

(RESPIRATION

same)

LOSEV, V.A., kand.med.nauk (Kiyev)

Some indexes of the respiratory function of the body following  
pneumonectomy. Vrach.delo no.6:595-598 Je '60.

(MIRA 13:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut tuberkuleza  
imeni akademika F.G. Yanovskogo.  
(LUNGS--SURGERY) (RESPIRATION) (BLOOD--OXYGEN CONTENT)

ALEKSANDROVSKIY, B.P.; VOLODINA, N.G.; GOREV, V.P.; YEMCHENKO, A.A.;  
IZABOLINSKAYA, R.M.; KOGOSOVA, L.S.; LOSEV, V.A.; MAYTULINA, S.P.;  
NIKOLAYETS, V.P.; OMEL'YANENKO, N.N.; RICHENKO, S.G.; CHERKASSKIY,  
L.P.; YUSHKEVICH, M.S.; YASHCHENKO, T.T.

Compensation of the principal functions of the organism within 3-4  
years after pneumonectomy. Probl. tub. 38 no.2:47-53 '60.  
(MIRA 13:11)

1. Iz Ukrainского nauchno-issledovatel'skogo instituta tuberkuleza  
(dir. - kandidat meditsinskikh nauk A.S.Mamolat).  
(LUNGS—SURGERY)

LOSEV, V.A.; SHINKAR', I.P.

Some indices of the respiratory function of the blood in animals  
of various ages. Vop. geron. i geriat. 4:62-66 '65. (MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

ACCESSION NR: AP4018163

S/0191/64/000/003/0024/0025

AUTHOR: Losev, V. B.; Ry\*skalova, M. F.

TITLE: Production of methyl-(phenylaminomethyl)-diethoxysilane

SOURCE: Plasticheskiye massy\*, no. 3, 1964, 24-25

TOPIC TAGS: methyl-(phenylaminomethyl)-diethoxysilane, production, process, arylaminoalkyldiethoxysilane, amination, diethoxysilane

ABSTRACT: The incorporation of polar groups in organosilicon polymers overcomes some of their low mechanical and adhesive properties. Methyl-(phenylaminomethyl)-diethoxysilane is such a compound. This technical grade material can be produced in increased yields (76%) by reacting aniline with the mixture of products obtained by esterifying methylchloromethyldichlorosilane (without separating the methylchloromethyldiethoxysilane), filtering to remove the aniline salt, and subsequently vacuum distilling the low boiling fraction from the filtrate of the reaction mass. Orig. art. has: 1 equation.

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L 27790-65 EWT(m)/EPA(s)-2/EPF(c)/T/EWP(j)/EPR Pc-4/Pr-4/Ps-4/Pt-10 Ww/DJ/ZH  
ACCESSION NR: AP5004312 8/0191/65/000/002/0026/0028

AUTHOR: Bogdanov, I. F.; Grebanshchikova, G. V.; Losev, V. B.; Mishchenko, M. L.;  
Molchanov, B. V.; Farberov, I. L. 46 B

TTT E: Study of the thermal degradation of polychloroorganosiloxane polymers

SOURCE: Plasticheskiye massy, no. 2, 1965, 26-28

TOPIC TAGS: silicorganic polymer, organosiloxane, polychorosiloxane, polymer thermal degradation, phenylsiloxane polymer, chlorinated polymer

ABSTRACT: The effect of chlorination of the phenyl radical on the thermal stability of polydimethylphenylsiloxanes was studied experimentally. The thermal properties of polydimethyl-, polydimethylchloro-, polydimethyldichloro- and polydimethyltrichlorophenylsiloxane were determined by recording the thermal effects of pyrolysis to 800C on Kurnakov's pyrometer, by measuring the pyrolytic weight loss to 1000C, and by analyzing the gaseous decomposition products generated up to 1000C. The non-halogenated polymer showed a small exothermic effect at 530C, while the chlorine-substituted specimen exhibited stronger exothermic effects at 550-565C, the height of the peaks increasing with the number of chlorine atoms. Chlorine

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L 27790-65

ACCESSION NR: AP5004312

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containing specimens started to decompose at lower temperatures, and the rate of gas generation and the percentage of bonded chlorine split off as hydrogen chloride both increased with the degree of chlorination. The amount of hydrogen liberated as H<sub>2</sub> or methane as compared with the initial hydrogen content of the methyl groups decreased in the chlorinated polymers, indicating a shielding effect of chlorine with respect to the stability of the methyl. Generally, the thermal stability decreased with increasing chlorine content. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

NO REF SOV: 002

ENCL: 00

SUB CODE: 00, 00

OTHER: 002

Card 2/2

5(3)

AUTHORS:

Voronkov, M. G., Candidate of Chemical  
Sciences, Losev, V. B.

SOV/30-58-12-39/46

TITLE:

Chemistry and the Practical Application of Silicon-Organic  
Compounds (Khimiya i prakticheskoye primeneniye  
kremniyorganicheskikh soyedineniy) All-Union Conference  
at Leningrad (Vsesoyuznaya konferentsiya v Leningrade)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1958, Nr 12,  
pp 97 - 100 (USSR)

ABSTRACT:

The 2. Conference was held from September 25 to  
September 27. More than 650 persons from various  
towns of the Soviet Union as well as from foreign  
countries took part in the conference, among them also  
industry functionaries. The conference was organized  
by: Otdeleniye khimicheskikh nauk ( Department of  
Chemical Sciences), Institut khimii silikatov Akademii  
nauk SSSR (Institute of Silicon Chemistry, Academy of  
Sciences, USSR), Vsesoyuznoye khimicheskoye obshchestvo  
im. D.I. Mendeleyeva (All Union Chemical Society imeni

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D.I.Mendeleev), Gosudarstvennyy komitet Soveta  
Ministrov SSSR po khimii ( State Committee for Chemistry  
of the USSR Council of Ministers) and Leningradskiy  
sovnarkhoz (Leningrad Economic Council). Lectures  
dealing with the following subjects were held at  
the plenary session by :K.A.Andrianov: "On the  
Particular Features and Prospects of the Development  
of Silicon-Organic Chemistry in the Soviet Union";  
V.Bazhant : "On Work Within the Field of Silicon-  
Organic Compounds at the Chemical Institute of the  
Czechoslovakian Academy of Sciences". Conference work  
was carried out in 4 sections: Monomers, polymers  
and their practical application, as well as analysis  
and physico-chemical research methods.

N.N.Tishina, K.A.Andrianov, S.A.Golubtsov et al.  
showed the possibility of developing a new technological  
method for the purpose of obtaining phenyltrichloro-  
silanes.

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I.V.Trofimova, K.A.Andrianov, S.A.Golubtsov gave

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new data on the synthesis of trichlorosilane by the interaction of hydrogen chloride with silicon. P.Rostnischevskiy gave a report on the works carried out by Polish scientists in the field of methyl-ethyl- and phenylchlorosilane.

M.Ye.Dolgaya, Ye.A.Chernyshov, Li Kuang-liang spoke about methods of synthesizing aromatic silicon-organic monomers by the interaction of hydrosilane with aromatic hydrocarbon in the presence of catalyzers with formation of the compound Si-C and separation of hydrogen.

N.F.Orlov, B.N.Dolgov and M.G.Voronkov reported on the results obtained by means of a new method of synthesizing triorgano-siloxy derivatives.

G.I.Nikishin, A.D.Petrov and S.I.Sadykh-zade spoke about the behavior of various dichloroalkanes and dichloroalkenes with chloric atoms at the conditions of a direct synthesization.

V.A.Ponomarenko, A.D.Petrov et al. gave a report

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on the catalytic affiliation of hydrosylanes to  
unsaturated compounds.

V.F.Mironov, V.A.Ponomarenko, A.D.Petrov et al. spoke  
about the comparison of the properties of organic silicon-,  
germanium-, and tin-compounds.

S.I.Sadykh-zade, A.D.Petrov, B.N.Dolgov, and N.P.  
Kharitonov spoke about new methods of synthesis of  
simple organo-silicon vinyl ether.

A.N.Nesmeyanov, R.Kh.Freydlina and his collaborators  
dealt with thermal and catalytical telomerization of  
hydroxylanes with olefins.

Yu.K.Yur'yev recommended a catalytical method of  
synthesis of silacyclopentane from furan and silane.

N.S.Nametkin, A.V.Topchiyev et al. reported on the  
research of the reaction of chloromethylation of  
silicon-organic compounds.

M.G.Voronkov et al. showed that the organosiloxane  
easily change over into heterolytic fission reactions  
caused by the influence of nucleophilic and electro-

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SOV/30-58-12-39/46

philic reagents.

A.G.Kuznetsova, K.A.Andrianov and D.Ya.Zhinkin gave new data on the common hydrolysis of aequimolecular mixtures of diethyl-dichlorosilane with phenyltrichlorosilane.

B. Lengyel, T. Szekely, A. Csuppon (Hungary) reported on results obtained by physico-chemical investigations of the process of hydrolysis- and condensation reactions of methylchlorosilane mixtures.

S.N.Dzhenchel'skaya, K.A.Andrianov, Yu.K.Petrashko gave data on working results within the field of catalytical polymerization of the hydrolysis products of di- and tri-functional compounds.

M. Kučera (Czechoslovakia) reported on the investigations carried out of the polymerization of octamethylcyclotetrasiloxanes under the influence exercised by alkalis.

K.A.Rzhendzinskaya, I.K.Stavitskiy gave a report on the synthesis of chlorine-containing polysiloxane-caoutchouc SKT-Kh5.

W.B.Baranovskaya, A.A.Berlin et al. suggested compounds

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on the basis of liquid polydimethylsiloxane which solidify at normal temperature.

A.I.Glukhova, K.A.Andrianov et al. gave a report on obtaining a heat-stable rubber-like polymer.

A.V.Topchiyev, N.S.Nametkin and collaborators spoke about the polymerization of unlimited silicon hydrocarbons by making use of a complex catalyzer triethylaluminum tetrachloro-titanium.

A.A.Zhdanov and K.A.Andrianov spoke about the synthesis of polymers with anorganic chains.

V.V.Korshak, G.M.Frunze, E.V.Kukharskaya, D.N.Andreyev reported on polyamides which are composed from silicon-containing dicarboxylic acids and possess a higher elasticity than similar polymers.

L.M.Volkova, K.A.Andrianov and assistants reported on a method of increasing the mechanical strength of silicon-organic polymers.

I.Ya.Guretskiy, A.P.Kreshkov, and P.A.Andreyev under various conditions investigated the interaction of a number of silicon-organic compounds with cellulose nitrates.

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N.P.Kharitonov, and B.N.Dolgov suggested a new material for heat-, moisture-, and electrical insulation on a silicon-organic basis to be used instead of enamel coatings.

B.A.Kiselev, Z.A.Zinov'yev et al. produced a hydrophobous glass Textolite on the basis of polyester compounds which contain silicon-organic compounds.

M.Ya.Borodin, Z.I.Kazakova, et al. obtained heat-resistant and solid foam material on the basis of a combination of silicon-organic polymers with phenol-formaldehyde- and epoxy-resins and nitrile rubber.

A.P.Kreshkov delivered a report on the successful analysis of silicon-organic compounds and gave an outline on further prospects of development.

S.V.Syavtsillo, A.P.Kreshkov, A.P.Terent'yev et al. investigated problems of the elaboration of control methods for the production of silicon-organic monomers and polymers.

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I. Cermak, D. Šnobl, M. Dvorak (Czechoslovakia)

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discussed results obtained by the radiographic determination of the activity of silicon-copper alloys which are used for the direct synthesis of methyl chlorosilanes.

In conclusion D.P. Novikov spoke about the present stage of development and the plans for the further development of the production of silicon-organic compounds in the USSR. A number of measures was recommended for the further development of the discussed field of science and technical engineering. A committee was elected for the purpose of working out the nomenclature of silicon-organic compounds. The authors of the present article regret that no reports were delivered at the conference on the theory of technological processes or on the calculation and design of chemical apparatus.

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AUTHOR: Losev, V.B. SOV/80-59-1-39/44

TITLE: Joint Condensation of Substituted Esters of the Orthosilicic Acid and the Ester of the Orthosilicic Acid With Poly Esters (Sovmestnaya kondensatsiya zameshchennykh efirov ortokremnevoy kisloty i efira ortokremnevoy kisloty s poliefirom)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 225-227 (USSR)

ABSTRACT: When the phenyltriethoxysilane or its mixture with diethyl-diethoxyallane or with tetraethoxysilane is combined with the poly ester, a chemical process takes place because of the interaction of the ethoxyl groups of the organic aryl-(alkyl)-ethoxysilanes or their mixture with the hydroxyl groups of the resin. This reaction results in producing new silicon-organic compounds. Their properties and characteristics, such as acid numbers, etc are presented in the tabular and graphical forms.  
There are 3 tables, 1 graph and 4 references, 3 of which are Soviet, and 1 English.

SUBMITTED: December 31, 1957

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AUTHOR: Losev, V.B. . SOV/80-59-1-44/44

TITLE: All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds (Vsesoyuznaya konferentsiya po khimii i prakticheskomu primeneniyu kremneorganicheskikh soyedineniy)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

ABSTRACT: The Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds was held in Leningrad from 25 to 27 September 1958. It was organized by the Technical Sciences Department and Institute for Chemistry of Silicates of the AS USSR, the All-Union Chemical Society imeni D.I. Mendeleev, the State Committee for Chemistry of the USSR Council of Ministers and the Council of National Economy of the Leningrad Economical region. Over 650 specialists took part in the work of the Conference. The Conference heard over 100 reports, including reports delivered by the scientists from China, Czechoslovakia, Poland, Hungary and Yugoslavia. The Conference was opened by a plenary meeting in which **Corresponding Member** AS USSR K.A. Andrianov delivered a review report on the basic stages and development line in the synthesis of polymer silicon-organic compounds. The Con-

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## All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds

ference work was divided into 4 sections: 1. silicon-organic monomers, 2. silicon-organic polymers, 3. analysis and physico-chemical methods for investigating silicon-organic compounds, and 4. practical application. The following reports were delivered to the Conference: by N.N. Tishina, K.A. Andrianov, S.A. Golubtsov, M.I. Kafyrov and R.L. Darashkevich on the reaction of phenylizing the trichlorosilane; by I.V. Trofimova, K.A. Andrianov and S.A. Golubtsov on the synthesis of trichlorosilane; by K.Ye. Dolgaya, Ye.A. Chernyshov and Li Kwang-liang on the synthesis of aromatic silicon-organic monomers; by N.F. Orlov, B.N. Dolgov and M.G. Voronkov on the new synthesis methods of trialkyl(aryl)-siloxiderivative elements of the III, IV and V groups of the periodic system; by G.I. Nikishin, A.D. Petrov, S.I. Sadykh-zade on the behavior of various dichloroalkanes and dichloroalkenes; by V.A. Ponomarenko, V.G. Cherkayev, G.V. Odabashyan, N.A. Zadrozheny and A.D. Petrov on the catalytic adding of hydrosilanes to unsaturated compounds; by Ye.P. Mikheyev, G.N. Mal'nova et al. on the catalytic interaction of alkyl-dichlorosilanes with benzene and its derivatives; by V.F. Mironov, V.A. Ponomarenko, G.Ya. Vzenkova, I.Ye. Dolgiy and A.D. Petrov on the synthesis of germanium-organic com-

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pounds; by S.I. Sadykh-zade and A.D. Petrov on the synthesis of silicon-organic vinyl ethers; by A.N. Nesmeyanov, R.Kh. Freydlina, A.A. Karapetyan and Ye.Ts. Chukovskaya on the thermal telcmerization of silicon hydrides with ethylene; by A.G. Kuznetsova, K.A. Andrianov and D.Ya. Zhinkin on the basic reaction for obtaining polyorganosilicoxane resins; by S.N. Dzhenchel'skaya, K.A. Andrianov and Yu.K. Petrashko on the production of soluble polymers with increased viscosity; by K.A. Rzhendzinskaya and I.K. Stavitskiy on the synthesis of the chlorine-containing polysilicoxane rubber SKT-Kh5; by N.B. Baranovskaya, A.A. Berlin, M.Z. Zakharova and A.I. Mizikin on the vulcanization of liquid and rubber-like polydimethylsilicoxanes at room temperature; by A.I. Glukhova, K.A. Andrianov, L.N. Kozlovskaya and K.F. Kalushenina on the obtaining of a rubber-like substance from the polydimethylsilicoxane; by A.A. Zhdanov and K.A. Andrianov on the synthesis of polymers with inorganic chains; by V.V. Korshak, G.M. Frunze, E.V. Kukharskaya and D.I. Andreyeva on the synthesis of polyamides from silicon-containing dicarbonic acids;

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by L.M. Volkova, K.A. Andrianov, G.Ye. Golubkov, L.N. Makarova, and V.A. Odinets on the introduction of polar groups into organic radical at the silicon atom; by N.Ya. Guretskiy, A.P. Kreshkov and P.A. Andreyev on the methods of combining silicon-organic polymers with high-molecular organic substances; by N.P. Kharitonov and B.N. Dolgov on the new thermo-humidity-electro-insulation materials based on silicon organic substances; by B.A. Kiselev, Z.A. Zinov'yeva, Ya.D. Avrasin and P.V. Davydov on obtaining a hydrophobic glass-textolite based on polyester binders; by M.Ya. Borodin, Z.I. Kazakova, A.P. Koroleva and V.A. Popov on thermo-resistant and durable foamy materials based on silicon-organic resins; by N.V. Kalugina and M.G. Voronkov on the application of silicon-organic substances for water-repulsing impregnation; by Ye.K. Maminov on their application for leather impregnation; by N.A. Afonchikov, G.V. Kolobova, P.N. Mikhaylov, and M.G. Voronkov on their application for glueing paper; by V.N. Khranova and A.P. Kreshkov on raising the cement frost-resisting properties; by S.V. Syavtsillo, Ye.A. Bondarevskaya, A.P. Kreshkov, B.M. Luskina, A.P. Terent'yev, V.T. Shemyatenkova and L.M. Shtifman on the analysis methods of monomer and polymer compounds; by K.K. Popkov on the

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spectral determination method of alkylchlorosilanes; by Yu.Ya. Mikhaylenko on the infrared spectroscopy of silicon-organic compounds and by A.V. Topchiyev, G.M. Panchenkov, N.S. Nametkin, A.A. Gundyrev and Ku Ch'ang-li on temperature dependence of the viscosity and density of certain silicon-organic compounds. The Conference selected a special commission for elaborating a uniform nomenclature of silicon-organic compounds. The next, third, all-union conference on the chemistry and practical application of silicon-organic compounds is scheduled for 1960.

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USCOMM-DC-60,881

LOSEV, V.B.; ASTAKHIN, V.V.

Obtaining semifinished material for the K-58 varnish. Biul.tekh.-ekon.-  
inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.7:22-23 '62.  
(Polymers) (Varnish and varnishing) (MIRA 15:7)

KOLPAKOV, Aleksandr Lavrent'yevich; LOSEV, Vladimir Borisovich;  
IVANOV, S.M., red.; ATROSHCHENKO, L.Ye., tekhn. red.

[Bountiful chemistry of organosilicon compounds] Shchedraia  
kremniorganika. Moskva, Izd-vo "Znanie," 1962. 37 p. (Novoe  
v zhizni, nauke, tekhnike. IV Seria: Tekhnika, no.21)  
(MIRA 15:11)

(Silicon organic compounds)

S/079/63/033/001/019/023  
D204/D307AUTHORS: Losev, V. B. and Borisov, M. F.

TITLE: Synthesis of organosilicon compounds containing the Si-C-N bond

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 1, 1963, 258-260

TEXT: 2,2,6,6-tetramethyl-4-(4-aminobutyl)-2,6-disilamorpholine (compound I, b.p. 117°C/1 mm Hg,  $n_D^{20} = 1.4586$ ,  $d_4^{20} = 0.9253$ ,  $M_R = 72.68$ ) and bis-1,4-(2,2,6,6-tetramethyl-2,6-disilamorpholine-4)butane (compound II, b.p. 157°C/1 mm Hg, m.p. 39°C) were synthesized by replacing the  $\alpha$ -chlorine in 1,2-bis-(chloromethyl)tetramethyldisiloxane (A) with tetramethylenediamine (B). A was added dropwise, over 40 min, to molten B; the temperature was allowed to rise to 140°C, then fell to 120°C. The mixture was heated for 5 hours at that temperature. The products were extracted from the cooled mixture with anhydrous toluene (which was then distilled off) and were distilled under vacuum. The structures of I and II were

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Synthesis of organosilicon ...

S/Q79/63/Q33/001/019/023  
D204/D307

confirmed by ir spectroscopy. Diethylaminomethylmethyldi-iso-propoxysilane (b.p. 73.5°C/5 mm Hg,  $n_D^{20} = 1.4185$ ,  $d_4^{20} = 0.8686$ ,  $MR_D = 71.01$ ) and diethylaminomethyl(dimethylethoxy)silane (b.p. 106°C/20 mm Hg,  $N_D^{20} = 1.4232$ ,  $d_4^{20} = 0.8277$ ,  $MR_D = 58.2$ ) were prepared by reacting, respectively, chloromethylmethyldi-iso-propoxysilane and chloromethyldimethylethoxysilane with diethylamine, by heating at 50°C for 6 hrs, in 65.4 and 34.8% yields. There are 2 figures.

SUBMITTED: February 12, 1962

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S/079/63/033/003/004/005  
A066/A126

AUTHORS: Losev, V.B., Fridman, G.Ye.

TITLE: Synthesis of organo-(2-chloroethoxy)silanes

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 3, 1963, 905 - 906

TEXT: This is a description of the synthesis of five hitherto unknown organo-(2-chloroethoxy)silanes. It has been established that in the absence of a solvent the ethylene oxide reacts with the organochlorosilanes even without heating, the reaction mass being heated considerably. The following compounds were obtained: methylphenyldi(2-chloroethoxy)silane, allyltri(2-chloroethoxy)silane, (chloromethyl)methylphenyl(2-chloroethoxy)silane, (chlorophenyl)tri(2-chloroethoxy)silane, (dichlorophenyl)tri(2-chloroethoxy)silane, and (dichloromethyl)dimethyl(2-chloroethoxy)silane. All the compounds are transparent liquids with an ethereal odor and soluble in aromatic hydrocarbons.

SUBMITTED: April 16, 1962

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ACCESSION NR: AP3000134

S/0062/63/000/005/0950/0951

AUTHOR: Andrianov, K. A.; Astekhin, V. V.; Losev, V. B.

TITLE: The reaction of organocyclosilazanes with phenols

SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 950-951

TOPIC TAGS: organocyclosilazanes, phenols hexamethylcyclotrisilazane, cresols, dialkyldiaryloxysilanes, transesterification of dimethyldiethoxysilane

ABSTRACT: The reaction of hexamethylcyclotrisilazane with phenol and the three isomeric cresols led to ring opening, evolution of ammonia, and formation of the corresponding dialkyldiaryloxysilanes in yields of 63-75%. These exceed the yields of the same compounds obtained in the transesterification of dimethyldiethoxysilane with phenols in the presence of metallic sodium. Orig. art. has: 1 equation and 1 table.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences SSSR) Vsesoyuznyy elektrotekhnicheskiy institut im. V. I. Lenina (All-Union Electrical Engineering Institute)

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ACCESSION NR: AF3000134

SUBMITTED: 30Dec62

DATE ACQ: 12Jun63

ENCL: 00

SUB CODE: CH

NO REF SOV: 001

OTHER: 001

Card 2/2

LOSEV, V.B.; RYSKALOVA, M.F.

Production of methyl (phenylaminomethyl)-diethoxysilane.  
Plast.massy no.3:24-25 '64. (MIRA 17:3)

ACCESSION NR: AP4028547

S/0191/64/000/004/0026/0027

AUTHORS: Losev, V. B.; Astakhin, V. V.

TITLE: Interaction of hexamethylcyclotrisilazane with bivalent phenols

SOURCE: Plasticheskiye massy\*, no. 4, 1964, 26-27

TOPIC TAGS: hexamethylcyclotrisilazane, reaction, rupture, cyclotrisilazane, Si N bond polymer, Si O O bond, polymer, siloxyphenylene polymer, viscosity, thermomechanical property, vitreous polymer, elastic state

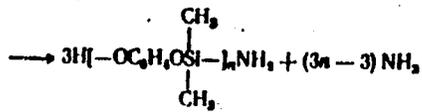
ABSTRACT: The reaction of hexamethylcyclotrisilazane with resorcinol and with hydroxyquinone was investigated to determine the possibility of obtaining polymers containing Si-N or Si-O-C bonds. The reaction results in the rupture of the silazane ring and formation of siloxyphenylene-containing polymers and ammonia:



Card

1/4

ACCESSION NR: AP4028547



The products are viscous dark colored polymers; their relative viscosity is shown in fig. 1. The low yield (61,65%) is explained by the sublimation of the phenols from the reaction mixture even though they were used in a 3:1 molar ratio with respect to the cyclosilazane compound. The thermomechanical properties of the polymers were examined (fig. 2). The resorcinol polymer is vitreous to -40C and highly elastic at -30 to -250; the transition from vitreous to the highly elastic states of the hydroxyquinone products is in the -40 to -350 range. Orig. art. has: 2 figures and 1 equation.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 28Apr64

ENCL: 02

SUB CODE: GC

NR REF SOV: 002

OTHER: 000

Card 2/4

ACCESSION NR: AP4028547

ENCLOSURE: 01

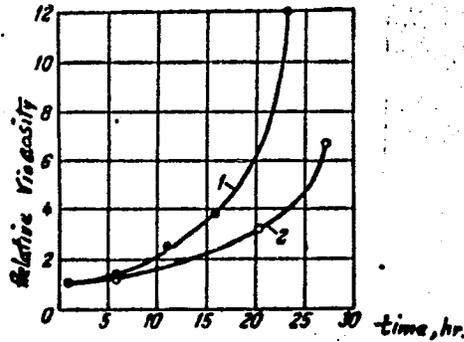


Figure 1

Change of relative viscosity in the process of obtaining polymers based on hexamethylocyclotrisilazane with resorcinol (1) and with hydroxyquinone (2).

Card 3/4

ACCESSION NR: AP4028547

ENCLOSURE: 02

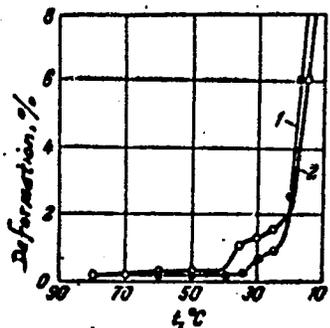


Figure 2

Thermomechanical properties of polymers based on hexamethylcyclo-trisilazane with resorcinol (1) and with hydroxyquinone (2)

Card 4/4

LOSEV, V.B.; MOLOKANOV, Yu.K.; NAZAROVA, D.V.

Third All-Union Conference on the Production and Application of  
Organosilicon Compounds. Plast.massy no.9:1-2 '64.

(MIRA 17:10)

AP5004312 S/0191/65/000/002/0026/0028

AUTHOR: Bogdanov, I. F.; Grebenshchikova, G. V.; Losev, V. B.; Mishchenko, M. L.; Molchanov, B. V.; Farberov, I. L.

TITLE: Study of the thermal degradation of polychloroorganosiloxane polymers

SOURCE: Plasticheskiye massy, no. 2, 1965, 26-28

TOPIC TAGS: silicorganic polymer, organosiloxane, polychlorosiloxane, polymer thermal degradation, phenylsiloxane polymer, chlorinated polymer

ABSTRACT: The effect of chlorination of the phenyl radical on the thermal stability of polydimethylphenylsiloxanes was studied experimentally. The thermal properties of polydimethyl-, polydimethylchloro-, polydimethyldichloro- and polydimethyltrichlorophenylsiloxane were determined by recording the thermal effects of pyrolysis to 800C on Kurnakov's pyrometer, by measuring the pyrolytic weight loss to 1000C, and by analyzing the gaseous decomposition products generated up to 1000C. The non-halogenated polymer showed a small exothermic effect at 530C, while the chlorine-substituted specimen exhibited stronger exothermic effects at 550-565C, the height of the peaks increasing with the number of chlorine atoms. Chlorine

Card 1/2

L 27790-65

ACCESSION NR: AP5004312

0

containing specimens started to decompose at lower temperatures, and the rate of gas generation and the percentage of bonded chlorine split off as hydrogen chloride both increased with the degree of chlorination. The amount of hydrogen liberated as H<sub>2</sub> or methane as compared with the initial hydrogen content of the methyl groups decreased in the chlorinated polymers, indicating a shielding effect of chlorine with respect to the stability of the methyl. Generally, the thermal stability decreased with increasing chlorine content. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENGL: 00

SUB CODE: 00, 00

NO REF SOV: 002

OTHER: 002

Card 2/2

L 27/15-65 ENT(m)/RPR(a)/T/EMP(1) Po-1/Pr-1 RM  
Accession no: ANSO0440

01079/65/035/002/0396/0397

AUTHOR: Losev, V. B.; Minsker, Ye. I.

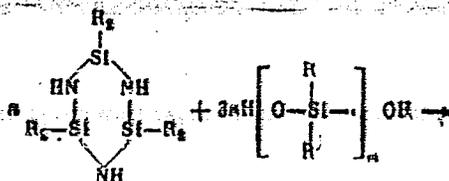
27  
18  
8

TITLE: Reaction of an organocyclosilazane with dihydroxypolyorganosiloxanes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 2, 1965, 396-397

TOPIC TAGS: siloxane, disiloxane, trisiloxane, silazane, cyclosilazane, polymer

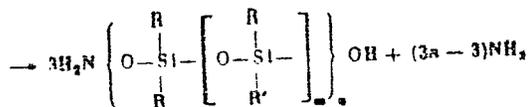
ABSTRACT: A study has been made of the reaction of organocyclosilazanes with dihydroxypolyorganosiloxanes. Dihydroxydimethyldiphenyldisiloxane or dihydroxytrimethyltriphenyltrisiloxane was condensed with hexamethylcyclotrisilazane at 200C to form rubber-like polymers in a 60% yield. It was established that the reaction is exothermic and proceeds as follows:



Card 1/2

L 27415-65

ACCESSION NR: AP5005558



(I)  $n=2, a=15, R=CH_3, R'=C_2H_5$ ; (II)  $n=8, a=16, R=CH_3, R'=C_2H_5$

The cryoscopic molecular weight was 5100 for I and 4981 for II. Orig. art. has:  
1 table and 1 formula. [SM]

ASSOCIATION: none

SUBMITTED: 29Jun64

ENCL: 00

SUB CODE: GC

NO REF SOV: 000

OTHER: 001

ATD PRESS: 3192

NADZHAFOV, Yu.B.; LOSEV, V.B.; SHAULOV, Yu.Kh.; MOISEYEV, A.F.;  
TUBYANSKAYA, V.S.

Heats of combustion of some nitrogen-containing organoalkoxysilanes.  
Zhur. fiz. khim. 39 no.5:1220-1223 My '65. (MIRA 18:8)

DASHEVSKIY, Lev Naumovich, kand. tekhn. nauk; POGREBINSKIY,  
Solomon Benjaminovich, inzh.; SHKABARA, Yekaterina  
Alekseyevna, kand. tekhn. nauk: Prinimali uchastiye:  
LOSEV, V.D.; ABAIYSHNIKOVA, L.M.; ZORINA, Z.S.;  
ORLOVA, I.A.; ZUBATENKO, A.Ya.; PAVLENKO, Yu.S., inzh.,  
retsenzent; GLUSHKOV, V.M., akademik, red.

[The "Kiev" computer; its design and operation] Vychislitel'naia mashina "Kiev"; proektirovanie i ekspluatatsiia. Kiev, Tekhnika, 1964. 322 p. (MIRA 17:11)

LOSEV, V.D. [Losiev, V.D.]; SEMENOVSKIY, A.G. [Semenovs'kyi, A.H.]

Device for checking trigger circuits. Zbir. prats' z obchys.  
mat. i tekhn. 2:111-113 '61. (MIRA 15:2)  
(Pulse circuits--Testing)

LOSEV, V.F., inzh.; SEREDENKO, E.D., inzh.

Automatic unit for shaking out cores from castings.  
Mashinostroenie no.6:9-10 N-D '65.

(MIRA 18:12)

5.2200

78237  
SOV/80-33-3-38/47

AUTHORS: Losev, V. I., Nikiforova, V. S.

TITLE: Brief Communications. Germanium in Coal

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3, pp 730-732 (USSR)

ABSTRACT: This is a short review of the various theories on the mechanism of the accumulation of germanium in coal, and of the several methods of extraction, such as combustion, halogenation, ultrasonics, and gamma ray exposure. The authors found that up to 30% of the germanium contained in coal can be extracted on bromination as water-soluble germanium tetrabromide. From 19 to 33% of germanium contained in brown coal was extracted by subjecting the latter to ultrasound. The yield was increased to 80% by combining the action of bromination with that of the ultrasonics. There are 14 Soviet references.

SUBMITTED: December 8, 1958  
Card 1/1

PIUNOVSKIY, I.I., kand. tekhn. nauk; ZHIVOTKO, B.I., kand. tekhn. nauk; RUKTESHEL', S.V., kand. tekhn. nauk; SHTOMPEL', B.N., kand. tekhn. nauk; BUTVILOVSKIY, F.A., inzh.; KORZHENEVSKAYA, R.A., inzh.; LOGVINOVICH, I.P., inzh.; UTEVSKAYA, L.I., kand. tekhn. nauk; RUNTSO, A.A., kand. tekhn. nauk; NAGORSKIY, I.S., kand. tekhn. nauk; TERPILOVSKIY, K.F., kand. tekhn. nauk; LOSEV, V.I., kand. tekhn. nauk; YAROSHEVICH, A.A., kand. tekhn. nauk; KATSYGIN, V.V., kand. tekhn.nauk, red.; BOROVIKOVA, R., red.

[Problems of the technology of mechanized agricultural production] Voprosy tekhnologii mekhanizirovannogo sel'skokhoziaistvennogo proizvodstva. Minsk, Izd-vo "Urozhai." Pt.2. 1964. 336 p. (MIRA 17:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva nechernozemnoy zony SSSR.

~~LOSEV, V.I.~~

KUTUSHEV, F.Kh., kandidat meditsinskikh nauk; LOSEV, V.I.

Analysis of electrocardiographic data in cases of patent Botallo's  
duct. Vop. okh. mat. 1 det. 2 no.2:56-63 Mr-Ap '57 (MLRA 10:4)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey  
(nachal'nik-deystvitel'nyy chlen AMN SSSR prof. P.A. Kuriyanov)  
(ELECTROCARDIOGRAPHY) (DUCTUS ARTERIOSUS)

LOSEV, V.I.

Evaluating the functional state of the cerebral cortex in children with congenital heart defects on the basis of electroencephalographic data. Vop.okh.mat. 1 det. 3 no.3:66-73 J1-Ag '58 (MIRA 11:8)

1. Iz kliniki detskikh bolezney (nachal'nik - prof. M.S. Maslov)  
Voyenno-meditsinskoy ordena Lenina akademii ineni S.M. Kirova)

(CEREBRAL CORTEX)

(ELECTROENCEPHALOGRAPHY)

(HEART--ABNORMALITIES AND DEFORMITIES)

KUFUSHEV, F.Kh., kand.med.nauk; LOSEV, V.I.

Cardiac disorders in patent ductus arteriosus. *Pediatria*  
37 no.7:9-13 J1 '59. (MIRA 12:10)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey  
(nachal'nik - deystvitel'nyy chlen AMN SSSR prof.P.A.Kupriyanov)  
i kliniki detskikh bolezney (nachal'nik - deystvitel'nyy chlen  
AMN SSSR prof.M.S.Maslov) Vcyenno-meditsinskoy akademii imeni  
S.M.Kirova.

(DUCTUS ARTERIOSUS, PATENT, case reports,  
cardiac disord. in operated & non-operated  
cases (Rus))

BORSCHOV, D.Ya., kand. tekhn. nauk; LOSEV, V.L., inzh.

Reconstruction of the D-163-B steam generator into a water boiler  
for temporary heating of buildings under construction. Nauch. trudy  
NIIstrois no.1:110-125 '64. (MIRA 19:2)

L 26150-66 FSS-2/ETT(L)/ETC(f)/ENG(m)

ACC NR: AP5012444

(A)

SOURCE CODE: UR/0091/65/000/012/0005/0007

AUTHOR: Losev, V. L. (Engineer)

ORG: none

TITLE: Electrochemical deoxygenation of water in hot water supply systems.

SOURCE: Energetik, no. 12, 1965, 5-7

TOPIC TAGS: water supply system, oxygen, electrochemistry

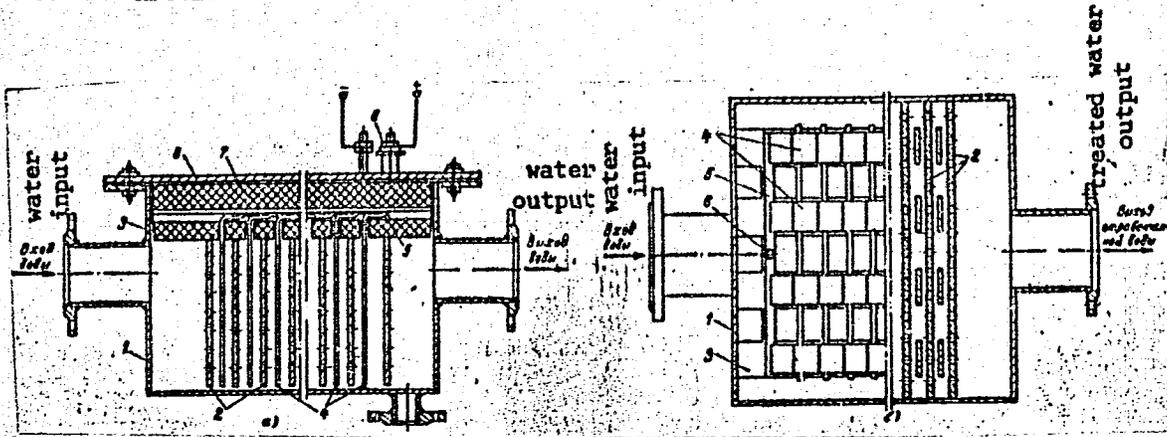
ABSTRACT: The author considers the use of iron-aluminum electrodes connected to a dc power supply for deoxygenating the water in hot water supply systems. The diagram of a sectional reactor for implementing this reagentless method of water treatment is given in the figure. Rectangular steel housing 1 contains cathodes in the forms of perforated steel plates 2. Located on the plates is textolite anode panel 3 holding aluminum strip anodes 4 so that each subsequent strip overlaps the preceding one. The first strips are locked by panel insert 5. The last strip has a contact lead 6 which is insulated from the reactor housing. The anodes are covered by textolite plate 7 and pressed down by steel cover 8. The reactor has a pipe branch in the bottom for washing. The insulation reduces oxygen content from 10 to 1 mg/l after deoxygenation. The proposed chemical method is more economical than conventional filtration and de-aeration. Orig. art. has: 4 figures, 2 tables.

UDC: 621.187.137

Card 1/2

L 26150-66

ACC NR: AP6012444



SUB CODE: 13/07/

SUBM DATE: 00/

ORIG REF: 000/

OTH REF: 000

Card 2/2

LAPITSKIY, Mikhail Andreyevich; ASTVATSATUROV, Gayk Gareginovich;  
KOZLOV, A.M., retsenzent; LOSEV, V.N., inzh., retsenzent;  
KOPWYKIN, P.A., inzh., red.; TIKHANOV, A.Ya., tekhn.red.

[Equipment for dismantling, assembling, and adjusting diesel  
tractors] Oborudovanie dlia razborki, sborki i regulirovki  
dizel'nykh traktorov. Moskva, Gos.nauchno-tekhn.izd-vo mashi-  
nostroit.lit-ry, 1960. 139 p. (MIRA 13:7)  
(Tractors--Maintenance and repair)

ARTEM'YEV, Yu.N., kand. tekhn. nauk; ASTVATSATUROV, G.G., inzh.;  
BARABANOV, V.Ye., inzh.; BARYKOV, G.A., inzh.; BISNOVATYY, S.I.,  
inzh.; GALAYEVA, L.M., inzh.; GAL'PERIN, A.S., kand. tekhn. nauk;  
GAL'CHENKO, I.I., inzh.; GONCHAR, I.S., kand. tekhn. nauk;  
DEGTYAREV, I.L., kand. tekhn. nauk; DYADYUSHKO, V.P., inzh.;  
YERMAKOV, I.N., inzh.; ZHOTKEVICH, T.S., inzh.; ZUSMANOVICH, G.G.,  
inzh.; KAZAKOV, V.K., inzh.; KOZLOV, A.M., inzh.; KOROLEV, N.A.,  
inzh.; KRIVENKO, P.M., kand. tekhn. nauk; LAPITSKIY, M.A., inzh.;  
LEBEDEV, K.S., inzh.; LIBERMAN, A.R., inzh.; LIVSHITS, L.G., kand.  
tekhn. nauk; LOSEV, V.N., inzh.; LUKANOV, M.A., inzh.; LYUBCHENKO,  
A.M., inzh.; MAMEDOV, A.M., kand. tekhn. nauk; MATVEYEV, V.A.,  
inzh.; ORANSKIY, N.N., inzh.; POLYACHENKO, A.V., kand. tekhn.nauk;  
POFOV, V.P., kand. tekhn. nauk; PUSTOVALOV, I.I., inzh.;  
PYTCHENKO, P.I., inzh.; PYATETSKIY, B.G., inzh.; RABOCHIY, L.G.,  
kand. tekhn. nauk; ROL'BIN, Ye.M., inzh.; SELIVANOV, A.I., doktor  
tekhn. nauk; SEMENOV, V.M., inzh.; SKOROKHOD, I.I., inzh.; SLABODCHIKOV,  
V.I., inzh.; STORCHAK, I.M., inzh.; STRADYMOV, F.Ya., kand. tekhn.  
nauk; SUKHINA, N.V., inzh.; TIMOFEYEV, N.D., inzh.; FEDOSOV, I.M.,  
kand. tekhn. nauk; FILATOV, A.G., inzh.; KHODOV, L.P., inzh.;  
KHROMETSKIY, P.A., inzh.; TSVETKOV, V.S., inzh.; TSEYTLIN, B.Ye.,  
inzh.; SHARAGIN, A.M., inzh.; CHISTYAKOV, V.D., inzh.; BUD'KO, V.A.,  
red.; PESTRYAKOV, A.I., red.; GUREVICH, M.M., tekhn. red.  
(Continued on next card)

ARTEM'YEV, Yu.N.— (continued) Card 2.

[Manual on the repair of machinery and tractors] Spravochnik po  
remontu mashinno-traktornogo parka. Pod red. A.I.Selivanova.  
Moskva, Sel'khozizdat. Vols.1-2. 1962. (MIRA 15:6)  
(Agricultural machinery—Maintenance and repair)  
(Tractors—Maintenance and repair)

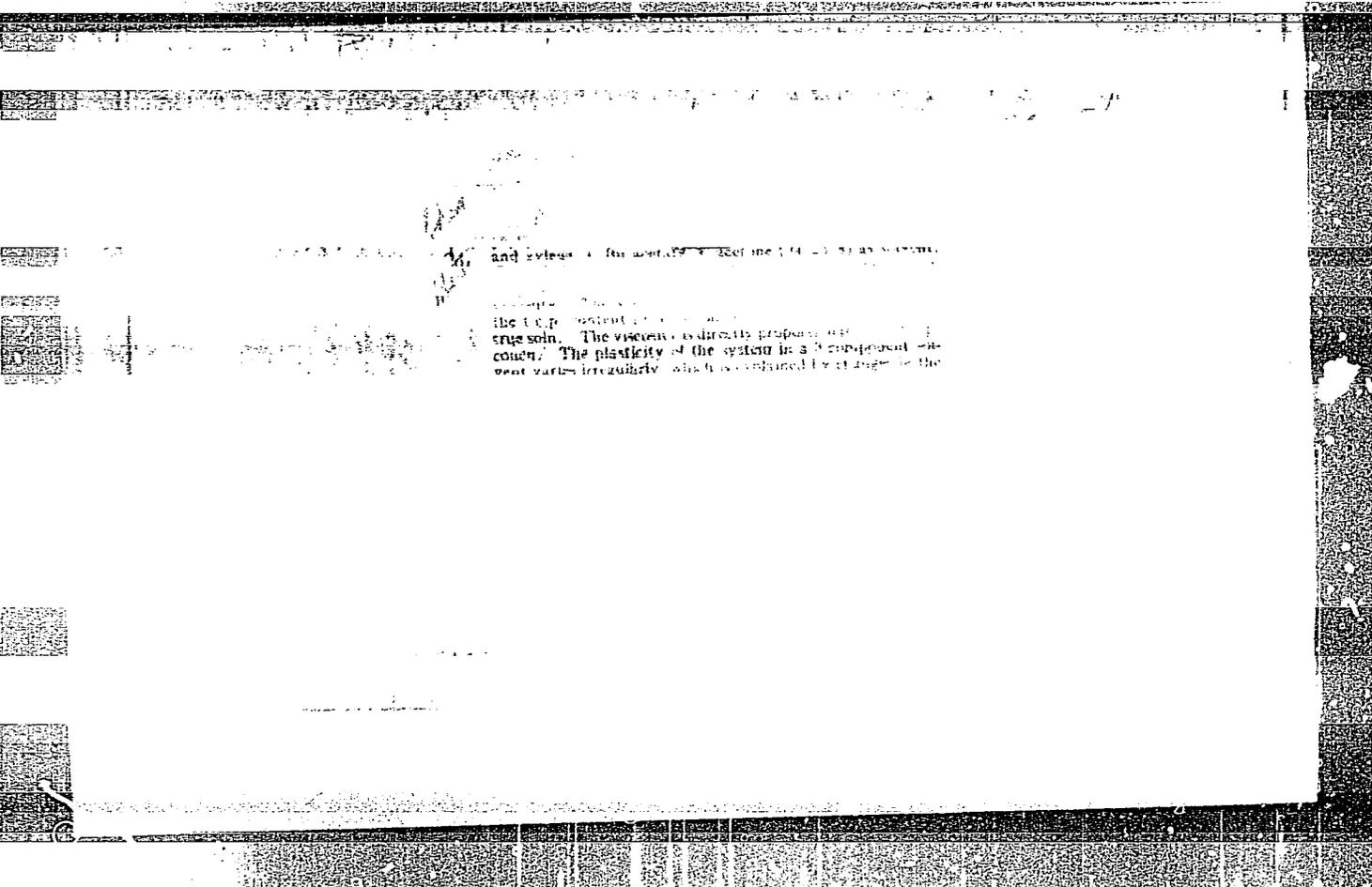


LOSEV, V.P.,-Aspirant --

"The Aggregative Stability of Organosuspensions of Mineral Pigments  
in a Multicomponent Dispersion Medium." Cand Chem Sci, Moscow Order  
of Lenin Chemicotechnological Inst imeni D.I. Mendeleev, 10 Nov 54.  
(VM, 29 Oct 54)

Survey of Scientific and Technical Dissertation Defended at USSR  
Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55



3 LOSEV, V. I.

L 53668-65 EWT(m)/EPF(c)/EWG(v)/EWP(j)/T Pc-4/Pe-5/Pr-4 DJ/RM  
ACCESSION NR: AP5014694 UR/0191/65/000/006/0048/0050  
678.675'126.026.3.06:621.822.5

AUTHOR: Belyy, V. A.; Vlasova, K. N.; Antropova, N. I.; Rutto, R. A.; Kestel'man,  
V. N.; Losev, V. P.; Dervoyed, N. A.; Samokhvalov, V. V.

TITLE: Kaprolon: a new material for antifriction coatings 38  
B

SOURCE: Plasticheskiye massy, no. 6, 1965, 48-50

TOPIC TAGS: antifriction coating, friction, caprolactam, polycaprolactam, coating,  
Kaprolon

ABSTRACT: The feasibility has been shown of applying "Kaprolon" antifriction coat-  
ings, and the effect of the coating method and substrate temperature on coating  
thickness has been studied as well as the microhardness, wear resistance, and ad-  
hesion of the coatings. Kaprolon is a new polyamide prepared by anionic polymer-  
ization of ε-caprolactam at 140—200C in the presence of alkaline initiators and  
various activators. Kaprolon, whose mechanical properties are said to exceed those  
of ordinary polycaprolactam by a factor of 1:5, is usually used for manufacturing  
machine parts by machining. It was found that the most uniform coating could be  
applied by a "vibration-fluidized bed" method. The high hardness and good adhesion

Card 1/2

L 53668-65

ACCESSION NR: AP5014694

(maximum at 230—250C) of such coatings from Kaprolon make it a suitable material for preventing wear of friction parts. Test-stand experiments using distilled water as a lubricant showed that Kaprolon coatings exhibit greater wear resistance than ordinary polycaprolactam coatings applied under the same conditions. Similar results were obtained in service tests. Service tests exceeding 18 months in duration confirmed the reliability of the coatings. Orig. art. has: 5 figures. [SM]

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 007

ENCL: 00

OTHER: 001

SUB CODE: MT,FP

ATD PRESS: 4011

882  
Card 2/2

BELYY, V.A.; VLASOVA, K.N.; ANTCPOVA, N.I.; RUTTO, R.A.; KESIEL'MAN, V.N.;  
LOSPV, V.P.; DERVOYED, N.A.; SAMOKHVALOV, A.V.

"Castrolan," the new material for antifriction coatings. Plast.massy  
no.6142-50 '65. (MIRA 18:8)

KUBENA, Lyudvig; SHKOP, Ya.F., inzh. [translator]; ~~LOSEV, Y.S.,~~ nauchnyy red.; VASIL'YEV, L.V., nauchnyy red.; ROMANOV, B.V., red.; RAKOV, S.I., tekhn.red.

[Practical training of masons] Proizvodstvennoe obuchenie kamenshchika. [Translated from Czech] Moskva, Vses. uchebno-pedagog. izd-vo Trudrezervizdat, 1958. 155 p. (MIRA 12:1)  
(Czechoslovakia--Masonry--Study and teaching)



LOSEV, V. V.

"Electrochemical Behavior of Iron in Hot Concentrated Solutions of Alkali." Sub 25 Oct 51, Inst Physical Chemistry, Acad Sci USSR.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

1. LOSEV, V. V.
2. USSR (600)
4. Iron
7. Effect of halogen ions and organic cations upon electrochemical behavior of iron in acidic solutions. Dokl AN SSSR No. 3 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

DOLIN, P.I.; LOSEV, V.V.; LUKOVITSEV, P.D.; MEDVEDOVSKIY, P.D.

Letter to the Editor. *Usp.khim.* 22 no.6:775-776 Je '53. (MLBA 6:5)  
(Electrochemistry--History)

LOSEV, V.V. (Translator)

LATIMER, Wendell Mitchell; LOSEV, V.V., translator; TRET'YAKOV, I.I., translator; ASTAKHOV, K.V., Professor, redaktor; OGANDZHANOVA, N.A., redaktor; SHAPOVALOV, V.I., tekhnicheskij redaktor

[The oxidation states of the elements and their potentials in aqueous solutions. Translation from the English] Okislitel'nye sostoiania elementov i ikh potentsialy v vodnykh rastvorakh. Perevod s angliiskogo V.V.Loseva, I.I.Tret'iakova. Pod red. K.V.Astakhova. Moskva, Izd-vo inostrannoi lit-ry, 1954. 400 p. (MLRA 8:3)  
(Electrolysis) (Oxidation) (Chemical elements)

LOSEV, V. V.

USSR/Chemistry - Metallurgy

Card 1/1

Authors : Losev, V. V., and Kabanov, B. N.

Title : Electrochemical behavior of iron in hot concentrated alkali solutions.  
Part 2. -

Periodical : Zhur. Fiz. Khim., 28, Ed. 5, 914 - 925, May 1954

Abstract : Results obtained in the study of the passivating effect of iron ions on the electrode indicate the presence, on the surface of the iron electrode, of surface active oxygen compounds originating as result of electrochemical reaction of the iron with the hydroxyl ions. The properties of these surface compounds depend upon the electrode potential and iron-ion concentration in the solution. The third anode process, as described in this report, is accompanied by the formation of a ferric oxide layer and rapid increase in the electrode capacitance. Seven USSR references. Table, graphs.

Institution : Acad. of Sc. USSR, Institute of Physical Chemistry, Moscow

Submitted : Oct. 2, 1953

*Resolution B-83976 . 6 Apr 54*



LOSEV, V. V.

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 29/50

Authors : Losev, V. V.

Title : Ionization and ion discharge processes of metals investigated by means of radioactive indicators

Periodical : Dok. AN SSSR 100/1, 111-114, Jan. 1, 1955

Abstract : The method employed in studying the ionization and ion discharge processes of metals is briefly described. One of the basic conditions of utilizing isotopic or radioactive indicators for quantitative determination of the rate of the actual electrode process, e. g. rate of metal ionization, was found to be a uniform distribution of the radioactive and stable metal particles in both phases. It was established that the actual rate of the given electrode process can be measured only by means of isotopic indicators, and that such measurements make it possible to determine the rate of the direct as well as reversible electrode process at a given potential. Nine references: 8 USSR and 1 German (1939-1954). Graphs; drawing.

Institution : Acad. of So., USSR., Institute of Physical Chemistry

Presented by: Academician A. N. Frumkin, July 6, 1954

LOSEV, V.V.

Electrochemical oxidation of iron and steel in hot concentrated alkali solutions. Zhur.prikl.khim.29 no.6:948-950 Je '56. (MIRA 9:9)

1. Institut fizicheskoy khimii Akademii nauk SSSR.  
(Iron oxides) (Steel)

LOSEV, V.V.

The anode solution of the amalgams V. V. Losev  
For Khun, A. A. ...  
value obtained by Zebrev, et al. (1954) ...  
due to an incorrect sample I. Rostaf Leach

LOSEV, V.V.

Effect of surface-active substances on processes taking place on  
cadmium amalgam. Dokl.AN SSSR 107 no.3:432-435 Mr '56. (MLRA 9:7)

I.Institut fizicheskoy khimii Akademii nauk SSSR. Predstavleno  
akademikom A.N.Frumkinym.  
(Surface-active agents) (Electrodes, Amalgam) (Cadmium alloys)

1965 U.S.S.R. 111: 020-021000. Significant study  
affect the electrode process kinetics, including ionization  
and the discharge of the metal ions. The effects of  $MgSO_4$   
on the anode and cathode processes with 0.3-0.5 at. % Zn  
and Cd amalgams were studied in the presence of a  $BaCl_2$   
sulfate and tribenzylamine, which form surface-active

41. A cathodic overvoltage was increased by 100 mV and the  
anode overvoltage by 70 mV. The effect of the strong  
the fact strong electrolytes on the amalgam surface was  
confirmed by electrocapillary measurements. The  
limiting effect upon the electrode process is a function  
of the concentration of the electrolyte.

*Inst. Phys. Chem. A.S. USSR*

LOSEV, V.V.; KABANOV, B.N.

Adsorption of surface active substances on an iron electrode in  
alkali solution. Izv. AN SSSR Otd. khim. nauk no. 4:414-420 Ap '57  
(MIRA 10:11)

1. Institut fizicheskoy khimii AN SSSR.  
(Adsorption) (Electrodes) (Surface active agents)

LOSEV, V. V.

Tagged atom technique used for the study of the rates of forward and reverse processes in heterogeneous reactions. Trudy Inst. fiz. khim. no.6:20-28 '57. (MIRA 11:10)  
(Electrochemistry) (Trans (Chemistry))

5(4)

SOV/20-122-1-24/44

AUTHORS:

Budov, G. M., Losev, V. V.

TITLE:

The Investigation of the Electrode Processes on Zinc Amalgam According to the Method of the Radioactive Indicators (Izucheniye elektrodnykh protsessov na amalgame tsinka metodom radioaktivnykh indikatorov)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 1, pp 90-93 (USSR)

ABSTRACT:

The purpose of this paper is the measurement of the exchange currents on zinc amalgam by application of radioactive indicators together with polarization measurements and of the determination of the anodic and cathodic maximum currents. Such a combined investigation permits distinct separation of that interval of the concentrations of the amalgam and of the solution in which the velocity of the exchange is limited by the stage of discharge-ionization, and not by the diffusion of the radioactive particles. Moreover, this combined investigation permits comparison of the experimental polarization curves with the theoretical curves. The authors used a previously described (Ref 2) method which was improved by

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## The Investigation of the Electrode Processes on Zinc Amalgam According to the Method of the Radioactive Indicators

some modifications. The exchange current was measured in an atmosphere of nitrogen at 25° C in the concentration interval 0,00008 - 0,97 M of the amalgam in solutions of 0,0001 - 0,20 M  $ZnSO_4$ . These samples were acidified by  $H_2SO_4$  (0,005 M) with an admixture of  $MgSO_4$  in order to maintain a constant ionic stress (ionnaya sila). According to preliminary measurements, the exchange current only slightly depends on the number of the revolutions of the mixer. This result applies to a wide interval of concentrations of  $ZnSO_4$  (0,01 - 0,20 M). The results of the measurements of the exchange currents and of the maximum anodic and cathodic currents are given in 2 diagrams. The maximum currents are directly proportional to the corresponding concentrations. The curves  $lg i_0 - lg C_a$  and  $lg i_0 - lg C_p$  are composed of 2 parts of different inclination.  $i_0$  denotes the exchange current,  $C_a$  and  $C_p$  - the volume concentrations of the amalgam and of the solution. In the region of low concentrations, the coefficients of the inclination are similar to 1, and the

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The Investigation of the Electrode Processes on Zinc Amalgam According to the Method of the Radioactive Indicators

corresponding parts are parallel to the straight lines for the maximum currents. In this region of concentrations, the velocity of the transition of the radioactive particles into the solution is not limited by the stage discharge-ionization, but by the diffusion of these particles. At higher concentrations, the exchange current increases more slowly if the concentration increases. The results of this paper agree sufficiently well with those of other authors. Also the polarization curves were found; the experimental points agree well with the theoretical curves. The authors thank Academician A. N. Frumkin for useful advice. There are 4 figures and 15 references, 7 of which are Soviet.

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of Electrochemistry, AS USSR)  
Fiziko-khimicheskiy institut im. L. Ya. Karpova  
(Physico-Chemical Institute imeni L. Ya. Karpov)

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FRUMKIN, A.N., akademik, otv.red.; YESIN, O.A., prof., red.; ZHDANOV, S.I.,  
red.; KABANOV, B.N., prof., red.; KOLOTYRKIN, Ya.M., dokt.khim.  
nauk, red.; LOSEV, V.V., red.; LUKOVITSEV, P.D., prof., red.;  
SOLOV'YEVA, Z.A., red.; STENDER, V.V., prof., red.; FLORIANOVICH,  
G.M., red.; YEGOROV, N.G., red.izd-va; PRUSAKOVA, T.A., tekhn.red.

[Proceedings of the 4th Conference on Electrochemistry, October  
1-6, 1956] Trudy 4-go soveshchaniia po elektrokhemii, 1-6 oktiabria  
1956 g. Moskva, Izd-vo Akad.nauk SSSR, 1959. 867 p. (MIRA 12:5)

1. Soveshchaniye po elektrokhemii, 4th, Moscow, 1956.  
(Electrochemistry)

LOSEV, V. V.

Soveshchaniye po elektrokhimii, 4th Moscow 1956

Trudy...; sbornik Transactions of the 4th Conference on Electrochemistry; Collection of Articles, Moscow, Izd-vo AN SSSR, 1959 868pp.

Transactions of the Fourth Conference (Cont.) SOV/22:6  
 Durdin, Ya. V., L. Kish, and V. I. Kravtsov, (Leningrad State University) 102  
 The Oscilloscopic Method in Investigating the Kinetics of Solving Metals  
 Losev, V. V., and A. M. Khozin, (Institute of Electrochemistry, Academy of Sciences USSR) 102  
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 Podgorskii, Yu. A., and A. I. Shlyagin (Moscow State University) 116  
 Charging Curves of Powder Catalysts and Adsorbents  
 Ritsunaniy, G. S., Khosh, L. I., Kriesteik, A. I., Roznyan, N. P., Zhuk, I. P., Anochich, V. V., Krasnozarskiy, M. A., Verovich (Deceased), A. G. Stromberg and contributing authors] 125

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5.4600

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SOV/20-129-6-34/69

~~5(4)~~

AUTHORS:

Budov, G. M., Logev, V. V.

TITLE:

Investigation of the Electrode Processes<sup>1</sup> on Indium<sup>1</sup> Amalgam  
by the Method of Radioactive Indicators

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 6, pp 1321-1324  
(USSR)

ABSTRACT:

The method mentioned in the title has already been employed by the authors when investigating the anode process of zinc amalgam (Refs 1, 2). In order to avoid the addition of a surface-active substance, which is necessary for the purpose of preventing concentration polarization, the authors chose indium amalgam for their investigation, because only a low exchange current occurs in the discharge of the indium ion. In<sup>114</sup> was used for radiochemical measurements. The authors investigated the dependence of the rate  $i_a$  of the real anodic process on the potential at  $20.0 \pm 0.01^\circ$  at an In-amalgam concentration of 0.002-0.9 M in solutions of 0.0004 - 0.03 M  $\text{In}(\text{ClO}_4)_3 + 0.01 \text{ M}$   $\text{HClO}_4$  and additions of  $\text{NaClO}_4$  for the purpose of keeping ion strength constant. As shown by figure 1, a linear dependence of

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$\lg i_a$  on the potential was found to exist, where the straight line<sup>a</sup> for the strength of the exchange current at equilibrium potential and different concentration of the In ions agrees with the rate of the anode process recorded at the same velocities. Figure 2 shows the dependence of  $i_a$  on the potential in the case of different amalgam concentrations. The curves of the anode process shift with increasing amalgam concentration in a negative direction, in which case, however, their inclination coefficient remains constant and corresponds to a transfer-coefficient  $\beta = 2.20 \pm 0.07$ . For the purpose of determining the latter, the measured dependence of the exchange current on the equilibrium potential at a varied amalgam concentration and constant concentration of In in the solution (Fig 3) was used. The value of  $\alpha$  was determined with  $0.91 \pm 0.02$ . On the basis of the linear dependence between the logarithm of the exchange current and the potential of amalgam at a constant concentration of  $\text{In}(\text{ClO}_4)_3$ , and as the sum  $\alpha + \beta$  nearly equals 3, i.e. is near the total number of electrons taking part in the electrode process, the authors conclude that among the conditions selected, the rate of the electrode process is determined by a stage

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of Radioactive Indicators

of the ionization and discharge of the In-ion. A simultaneous splitting-off of several electrons is improbable. In the dissolution of In on the anode, the three single-electron stages are therefore assumed:  $\text{In} \rightarrow \text{In}^+ + e$ ;  $\text{In}^+ \rightarrow \text{In}^{2+} + e$ ;  $\text{In}^{2+} \rightarrow \text{In}^{3+} + e$ . It is proven that stage  $\text{In}^{2+} \rightarrow \text{In}^{3+} + e$  is to be considered as limiting the rate of the process, because this case agrees with the experimentally found results. It is further mentioned that also in the process developing on the electrodes of the bivalent metals, the coefficients  $\beta$  and  $\alpha$  have highly divergent values. The authors thank Academician A. N. Frumkin for his valuable advice. There are 3 figures and 29 references, 8 of which are Soviet.

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR). Nauchno-issledovatel'skiy fiziko-khimicheskiy Institut im. L. Ya. Karpova (Scientific Research Institute for Physical Chemistry imeni L. Ya. Karpov)

PRESENTED: May 12, 1959, by A. N. Frumkin, Academician

SUBMITTED: April 28, 1959

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5(4) 5.4600

67955

SOV/20-130-1-31/69

AUTHORS: Losev, V. V., Molodov, A. I.

TITLE: The Influence Exercised by the Anions on the Anodic Dissolution of Indium Amalgam

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 111-114 (USSR)

ABSTRACT: After having given a survey of publications dealing with anodic processes the authors establish that the accelerating anion effect on the anodic dissolution of metals has not yet been explained. Since the ordinary polarization measurements are rendered difficult in the case of considerable distance from the equilibrium potential due to concentration polarization, since, however, they cannot be carried out near the equilibrium potential due to the occurrence of an inverse process the authors combined the polarization measurements with radiochemical measurements. Thus one of the two electrode processes can be studied with an equilibrium potential and also with a strong inverse process (Refs 7-10). The influence exercised by the sodium halide- and sodium sulfate concentration on the velocity  $i_a$  of the true anodic process of dissolution of 0.1 M indium amalgam in 0.01 M  $\text{In}(\text{ClO}_4)_3 + 0.01 \text{ M HClO}_3$  was investigated

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The Influence Exercised by the Anions on the  
Anodic Dissolution of Indium Amalgam

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at 20° and with constant ionic strength (3 M) which was maintained by the addition of  $\text{NaClO}_4$ . Figure 1 shows the radiochemically determined dependence of  $i_a$  on the potential. The ionization of In occurs also with strong cathodic polarization. Figures 2 and 3 show the dependence of  $i_a$  on the potential  $\varphi$  for concentrations of  $\text{Na}_2\text{SO}_4$  on 0.05 - 0.9 M,  $\text{NaCl}$  on 0.05 - 2.7 M,  $\text{NaBr}$  on  $1 \cdot 10^{-3}$  - 2.7 M and  $\text{NaJ}$  on  $1 \cdot 10^{-3}$  - 1 M. A linear dependence exists between  $\varphi$  and  $i_a$ . With increasing concentration  $C$  of  $\text{SO}_4^{2-}$  and  $\text{Cl}^-$  the curves of  $i_a$  shift into negative direction. The experimental data correspond to the equation  $i_a = kC^x$  where  $x$  is equal to 1 for low concentrations, with increasing concentrations it also increases. It follows therefrom that the ion  $\text{SO}_4^{2-}$  and  $\text{Cl}^-$  take an active part in the anodic process. For

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The Influence Exercised by the Anions on the  
Anodic Dissolution of Indium Amalgam

NaBr and NaJ (Fig 3) also an increase in the exchange current with increasing concentration of Br<sup>-</sup> and J<sup>-</sup> ions was observed. The experimental data are interpreted by the occurrence of different types of ions in the different concentration ranges.

$i_a = k [\text{In}] [J^-] \exp(\beta \varphi F/RT)$  holds for iodine where  $\beta = 2.32$ . 4

The authors refuse the explanation of the accelerating effect of the J<sup>-</sup> and Br<sup>-</sup> ions due to the change of the structure of the electric double layer. It seems to them more probable that the halogen ions (except F<sup>-</sup>) and sulfate ions take an active part in the anodic ionization of In. In conclusion it is mentioned that the authors thank Ya. M. Kolotyркиn for advice. There are 4 figures and 21 references, 10 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute of Physical Chemistry imeni L. Ya. Karpov)

PRESENTED: June 16, 1959 by V. A. Kargin, Academician

SUBMITTED: June 12, 1959

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87411

5.4600

1043, 1087, 1273

S/020/67/135/006/027/037  
B004/B056

AUTHORS: Losev, V. V. and Molodov, A. I.

TITLE: The Mechanism of Anodic Dissolution of Indium Amalgam in Acid Solutions

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 6, pp. 1432 - 1435

TEXT: It was the purpose of the present work to investigate the action of pH upon the anodic ionization of metals. The experiments were carried out with indium amalgam. Polarization was measured, and furthermore, the dependence of the anodic and cathodic processes on the acidity of the solution varying from  $9.5 \cdot 10^{-4}$  M to 3.3 M  $\text{HClO}_4$  was radiochemically determined. For the anodic process (rate  $i_a$ ), the linear dependence of  $\log i_a$  on the potential  $\varphi$  was found. The inclination of the straight line corresponds to the experimental transfer coefficients  $\beta = 2.2$ . With increasing acid concentration (from  $9.5 \cdot 10^{-4}$  to 0.5 M) the exchange current

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Indium Amalgam in Acid Solutions

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B004/B056

$i_0$  drops from  $1 \cdot 10^{-3}$  to  $2 \cdot 10^{-5}$  a/cm<sup>2</sup>. Within the range of concentration C of HClO<sub>4</sub> from  $5 \cdot 10^{-3}$  to 0.2 M, linear dependence of  $\log i_a$  on  $\log C$  was found. For the anodic process, the equation  $i_a = k[\text{In}][\text{H}^+]^{-1} \exp(\beta\phi F/RT)$  (1) holds, where  $\beta = 2.2$ . The complex character of the cathodic process is caused by the hydrolysis of indium ions. Besides the ions  $\text{In}(\text{H}_2\text{O})_6^{3+}$ , the ions  $\text{In}(\text{H}_2\text{O})_5\text{OH}^{2+}$  appear. The rate of the cathode process is given by  $i_k = k''[\text{In}(\text{H}_2\text{O})_5\text{OH}^{2+}] \exp(-\alpha\phi F/RT) = k''K_h[\text{In}(\text{H}_2\text{O})_6^{3+}][\text{H}_3\text{O}^+]^{-1} \cdot \exp(-\alpha\phi F/RT)$ .  $K_h$  is the coefficient of hydrolysis. This equation represents the experimental data. The easier discharge of the hydrolyzed ions is explained by the action of the OH-groups which facilitates the electron transition. The production and discharge of multiply charged metal cations takes a step-wise course. B. N. Kabanov and D. I. Leykis are mentioned. There are 3 figures and 13 references: 5 Soviet, 4 US, 1 Czechoslovakian, 1 Danish, 5 German, and 1 Japanese.

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The Mechanism of Anodic Dissolution of Indium S/020/60/135/006/027/037  
Amalgam in Acid Solutions B004/B056

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-  
chemical Institute imeni L. Ya. Karpov)

PRESENTED: July 8, 1960, by A. N. Frumkin, Academician

SUBMITTED: July 7, 1960

X

Card 3/3

BUDOV, G.M.; LOSEV, V.V.

Electrochemical dissolution and formation of amalgams on a stationary electrode. Zhur.prikl.khim. 34 no.10:2289-2295 0 '61. (MIRA 14:11)

1. Institut elektrokhimii AN SSSR i Fiziko-khimicheskiy institut imeni L.Ya.Karpova.  
(Amalgams) (Electrochemistry)

LOSEV, V.V.; MOLODOV, A.I. (Moscow)

Radioactive-tracer technique for measuring exchange rate between mercury and mercurous salts. Zhur.fiz.khim. 35 no.11:2487-2493 N '61. (MIRA 14:12)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.  
(Mercury--Isotopes)  
(Mercury salts)

LOSEV, V.V. , DEMBROVSKIY, M.A., MOLODOV, A.I. AND GORODETSKIY, V.V.

"Radiochemische methode zur untercuchung der kinetik von elektrodenprozessen an metallelektroden."

Report submitted to the Intl. Committee for Electrochemical thermodynamics and kinetics, Rome, ~~1962~~ Italy 24-29 Sep 1962

IOSEV, V. V.; BUDOV, G. M.

Study of electrode processes on amalgams by means of radiochemical and electrochemical measurements. Part 1. Zhur. fiz. khim. 37 no. 3:578-585 Mr '63. (MIRA 17:5)

1. Institut elektrokhimii AN SSSR i Fiziko-khimicheskiy institut imeni Karpova AN SSSR.

LOSEV, V.V.; GORODETSKIY, V.V. (Moscow)

Effect of the acidity of solution on the electrode processes  
on a bismuth amalgam electrode. Zhur. fiz. khim. 37 no.4:  
842-849 Ap '63. (MIRA 17:7)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

BUDOV, G.M.; LOSEV, V.V.

Electrode processes on amalgams studied by means of radio-  
chemical and electrochemical measurements. Part 2. Zhur.  
fiz. khim. 37 no.5:1023-1028 My '63. (MIRA 17:1)

1. Institut elektrokhemii AN SSSR i Fiziko-khimicheskiy institut  
imeni L.Ya. Karpova.

BUDOV, G.M.; LOSEV, V.V.

Electrode processes on amalgams studied by means of radiochemical and electrochemical measurements. Zhur. fiz. khim. 37 no.6:1230-1235 Je '63. (MIRA 16:7)

1. Institut elektrokhemii AN SSSR i Fiziko-khimicheskiy institut imeni L. Ya. Karpova.

(Electrodes)

(Amalgams)

BUDOV, G.M.; LOSEV, V.V.

Radiochemical and electrochemical studies of electrode processes on  
amalgams. Part 4. Zhur.fiz.khim. 37 no.7:1461-1466 J1 '63.

(MIRA 17:2)

1. Institut elektrokhemii AN SSSR i Fiziko-khimicheskiy institut imeni L.  
Ya.Karpova, Moskva.

LOSEV, V.V. (Moskva); DEMBROVSKIY, M.A. (Moskva); MOLODOV, A.I. (Moskva)

Apparatus for measuring the exchange current and true rate of the anodic process on amalgam electrodes with the aid of radioisotopic tracers. Zhur.fiz.khim. 37 no.8:1904-1907 Ag '63. (MIRA 16:9)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.  
(Electrodes) (Radioactive tracers) (Amalgams)

S/020/63/148/005/022/029  
B190/B102AUTHORS: Losev, V. V., Molodov, A. I.

TITLE: The effect of fluorine ions on the anodic dissolution of indium amalgam and some laws governing the electrode processes involving complexes

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1114-1117

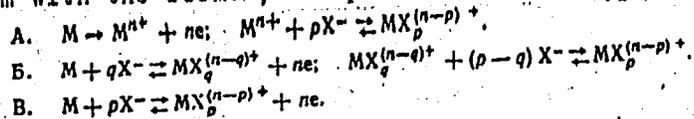
TEXT: As in previous investigations (DAN 130, 111, 1960) the authors studied the way fluorine ions affect the anodic processes by examining the polarization curves together with radiochemical measurements in 0.1 M indium amalgam in a solution of  $0.01 \text{ M In}(\text{ClO}_4)_3 + \text{NaClO}_4 + \text{HClO}_4$  with additions of NaF (0.01-0.2 M) at constant ion strength and pH 1.3. The exchange current density  $i_0$  (a/cm<sup>2</sup>) was measured as a function of the potential at various NaF concentrations was found to drop exponentially with increasing  $i_0$ , almost independently of the NaF concentration. The

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S/020/63/148/005/022/029  
B190/B102

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polarization curves however differed considerably for different NaF concentrations. When not only the  $MX_p^{(n-p)+}$  complexes predominant in the solution take part in the electrode processes, but also other complexes in equilibrium with the former, the processes



will also occur at the same time. A refers to the contribution of the simple hydrated metal ions, E to that of the non-predominant, and B to that of the predominant complexes. The rates of the anodic and cathodic processes are then given by

$$i_a = k'_A [M] e^{\beta_1 \alpha_1 F/RT} + k'_B [M] [X^-]^q e^{\beta_2 \alpha_2 F/RT} + k'_C [M] [X^-]^p e^{\beta_3 \alpha_3 F/RT}; \quad (1)$$

$$i_c = k''_A [M^{n+}] e^{-\alpha_1 \alpha_1 F/RT} + k''_B [MX_q^{(n-q)+}] e^{-\alpha_2 \alpha_2 F/RT} + k''_C [MX_p^{(n-p)+}] e^{-\alpha_3 \alpha_3 F/RT}. \quad (2)$$

Assuming that all  $\alpha_i$  can be replaced by  $\alpha$  and all  $\beta_i$  by  $\beta$ , and that

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